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Karube et al.

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(54) **SITE-SPECIFIC CELL PERFORATION  
TECHNIQUE**

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(57) **ABSTRACT**

A technique for controlling membrane denaturation reactions other than physical shear force was developed. For example, the present invention provides, a method for causing membrane disruption at a specific site by reacting a stimulus such as light with a compound that is activated by the stimulus, where the reaction occurs on a membrane such as a biomembrane. It also provides a membrane structure such as cells in which a specific site has been disrupted, which are obtained by the present method. Introduction of substances such as genes also became possible by using this membrane structure. Further provided is a membrane-destroying member for disrupting a membrane at a specific site. Thus, the present invention enabled, for example, easy membrane penetration using components constituting microelectrodes, micromanipulators, and microinjectors, which were conventionally hardly usable in penetrating cell membranes.

2 Claims, 13 Drawing Sheets

